

CURRICULUM VITAE

PROF. DR. MARTIN RAUBAL

Swiss Federal Institute of Technology, ETH Zurich
Dept. Civil, Environmental and Geomatic Engineering
Institute of Cartography and Geoinformation

Current Affiliation

Professor for Geoinformation Engineering
ETH Zurich
Dept. Civil, Environmental and Geomatic Engineering
Institute of Cartography and Geoinformation

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Personal

Nationality: Austrian
Date of Birth: 11 September 1968
Place of Birth: Vienna, Austria
Status: Married, 2 children
Languages: German, English, Italian (beginner's level)

Education

Habilitation (Venia legendi in Geoinformatics), University of Münster, Germany, 2006
Thesis title: Cognitive Engineering for Geoinformatics

Dr. techn., Institute for Geoinformation, Vienna University of Technology, Austria, 2001 (with honors)
Thesis title: Agent-based Simulation of Human Wayfinding: A Perceptual Model for Unfamiliar Buildings
Advisors: Andrew U. Frank, Werner Kuhn

Dipl.-Ing. (M.S.), Surveying Engineering, Vienna University of Technology, Austria, 1998
Advisor: Andrew U. Frank

M.S., Spatial Information Science and Engineering, University of Maine, U.S.A., 1997
GPA: 4.0

Thesis title: Structuring Wayfinding Tasks with Image Schemata
Advisors: Max J. Egenhofer, M. Kate Beard-Tisdale, Werner Kuhn, and Andrew U. Frank

Professional Appointments

- Apr. 2011 – Full Professor for Geoinformation Engineering
Swiss Federal Institute of Technology, ETH Zurich, Switzerland
- 2016 – Deputy Academic Director of MAS (Master of Advanced Studies) Future
Mobility, ETH Zurich
- Jun. 2014 – Co-Chair of AGILE (Association of Geographic Information
Laboratories for Europe) Council
- Oct. 2011 – Member of the Energy Science Center, ETH Zurich
- Mar. 2011 – Adjunct Professor
Department of Geography
University of California, Santa Barbara, U.S.A.
- 2008 – 2011 Associate Professor
Department of Geography
University of California, Santa Barbara, U.S.A.
- 2008 – Affiliated faculty member
Department of Computer Science
University of California, Santa Barbara, U.S.A.
- 2007 – Faculty member of Cognitive Science Program
University of California, Santa Barbara, U.S.A.
- 2006 – 2008 Assistant Professor
Department of Geography
University of California, Santa Barbara, U.S.A.
- 2005 – 2006 Junior Professor (W1)
Institute for Geoinformatics
University of Münster, Germany
- 2004 – 2005 Assistant Professor (C1)
Institute for Geoinformatics
University of Münster, Germany
- Oct. 2003 – Sep. 2004 Substitute Associate Professor (C3)
Institute for Geoinformatics
University of Münster, Germany
- 2002 – 2003 Assistant Professor (C1)
Institute for Geoinformatics
University of Münster, Germany
- 1998 – 2002 (Graduate) Research Assistant
Institute for Geoinformation
Vienna University of Technology, Austria
- 1996 – 1997 Graduate Research Assistant
National Center for Geographic Information and Analysis (NCGIA) and
Department of Spatial Information Science and Engineering
University of Maine, U.S.A.

1995 – 1996 Teaching Assistant
Department of Geoinformation
Vienna University of Technology, Austria

Awards and Honors

2018 Erskine Fellow at University of Canterbury, Christchurch, New Zealand

2016 Innovation Lecturer (INNOLEC) at Masaryk University, Brno, Czech Republic

2015 Mobiscool Workshop (at MobileHCI 2015 Conference) Best Paper Award for “An evaluation method for location-based mobile learning based on spatio-temporal analysis of learner trajectories” (Sailer, Kiefer, Schito, Raubal)

2010 ACM GIS 2010 Best Fast Forward Presentation Runners Up for “Time Geography Inverted: Recognizing Intentions in Space and Time” (Kiefer, Raubal, and Schlieder)

2010 AGILE 2010 Best Paper Award for “A Spatio-Temporal Model Towards Ad-Hoc Collaborative Decision-Making” (Raubal and Winter)

2008 U.V. Helava Award (SFr. 10,000) for the period 2004-2007 for “Time geography for ad-hoc shared-ride trip planning in mobile geosensor networks” (Raubal, Winter, Teßmann, and Gaisbauer)

2008 ISPRS Journal 2007 Best Paper Award for “Time geography for ad-hoc shared-ride trip planning in mobile geosensor networks” (Raubal, Winter, Teßmann, and Gaisbauer)

2005 Intergraph Award (1,000\$) for most innovative research paper at AGILE 2005 (“Mappings for Cognitive Semantic Interoperability”)

2003 AGILE 2003 Best Paper Award for “Implementing Semantic Reference Systems” (Kuhn and Raubal)

2003 Intergraph GeoMedia Education Grant (to Institute for Geoinformatics, University of Münster) based on ‘Finding suitable locations for airports in Germany’ and ‘Skill building lesson plans’ from Introduction to Digital Cartography course 2002

1997 Award for Outstanding Academic Achievement, University of Maine

1996, 1997 Research Assistantship, funded by the National Center for Geographic Information and Analysis (NCGIA), U.S.A.

1996 Scholarship for scientific work in a foreign country, Austrian Government

Professional Activities

2018 Member of program committee of GIScience 2018 – 10th International Conference on Geographic Information Science (Melbourne, Australia)

2018 Member of program committee of Mobile Tartu 2018 – International Conference on Mobile Data, Geography, LBS (Tartu, Estonia)

- 2018 Member of program committee of 21st AGILE International Conference on Geographic Information Science (Lund, Sweden)
- 2018 Member of program committee of GISOV 2018 – GIS Ostrava - Geoinformatics for Safety and Security Management (Ostrava, Czech Republic)
- 2018 General Chair of LBS 2018 – 14th International Conference on Location Based Services (Zurich, Switzerland)
- 2017 Member of program committee of COSIT 2017 – 13th International Conference on Spatial Information Theory (L'Aquila, Italy)
- 2017 Member of program committee of 20th AGILE International Conference on Geographic Information Science (Wageningen, Netherlands)
- 2017 Member of program committee of 15th International Symposium on Web and Wireless Geographical Information Systems, W2GIS 2017 (Shanghai, China)
- 2017 Member of program committee of GISOV 2017 – GIS Ostrava - Dynamics in GIScience (Ostrava, Czech Republic)
- 2016 Member of program committee of 13th International Conference on Location Based Services (Vienna, Austria)
- 2016 Member of program committee of GIScience 2016 – 9th International Conference on Geographic Information Science (Montreal, Canada)
- 2016 Member of program committee of 6th International Workshop on Pervasive Eye Tracking and Mobile Eye-Based Interaction (PETMEI), (within UbiComp 2016, Heidelberg, Germany)
- 2016 Member of program committee of International Conference Spatial Cognition 2016 (Philadelphia, USA)
- 2016 Member of program committee of Mobile Tartu 2016 – International Conference on Mobile Data, Geography, LBS (Tartu, Estonia)
- 2016 Co-Chair of Session on The Changing Transportation and Mobility Landscape and their Influence on Energy Needs in Europe and North America, Workshop on Energy Futures – Europe and North America (ETH Zurich, Switzerland)
- 2016 Member of program committee of GISOV 2016 – GIS Ostrava - The Rise of Big Spatial Data (Ostrava, Czech Republic)
- 2016 Member of program committee of 19th AGILE International Conference on Geographic Information Science (Helsinki, Finland)
- 2016 Co-Organizer of ETH Winter School Eye Tracking - Experimental Design, Implementation, and Analysis (Congresso Stefano Franscini, Monte Verità, Ascona, Switzerland)
- 2015 Program Chair of COSIT 2015 – 12th International Conference on Spatial Information Theory (Santa Fe, New Mexico, U.S.A.)
- 2015 Member of program committee of IUI'2015 – International Conference on Intelligent User Interfaces 2015 (Atlanta, GA, U.S.A.)

- 2015 Member of program committee of 5th International Workshop on Pervasive Eye Tracking and Mobile Eye-Based Interaction (PETMEI), (within UbiComp 2015, Osaka, Japan)
- 2015 Member of scientific committee of 12th International Symposium on Location-Based Services (Augsburg, Germany)
- 2015 Member of program committee of 5th International Workshop on Location and the Web (LocWeb 2015), (within WWW 2015, Florence, Italy)
- 2015 Member of program committee of 18th AGILE International Conference on Geographic Information Science (Lisbon, Portugal)
- 2014 Member of program committee of 2nd ACM SIGSPATIAL Workshop on MapInteraction (within ACM SIGSPATIAL 2014, Dallas, Texas, U.S.A.)
- 2014 Senior program committee member of ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (GIS) 2014, Dallas, Texas, U.S.A.
- 2014 Member of scientific committee of 11th International Symposium on Location-Based Services (Vienna, Austria)
- 2014 Member of program committee of 4th International Workshop on Location and the Web (LocWeb 2014), (within CIKM 2014, Shanghai, China)
- 2014 Member of program committee of International Conference Spatial Cognition 2014 (Bremen, Germany)
- 2014 Member of program committee of GIScience 2014 – 8th International Conference on Geographic Information Science (Vienna, Austria)
- 2014 Member of program committee of 17th AGILE International Conference on Geographic Information Science (Castellón, Spain)
- 2014 Member of program committee of IUI'2014 – International Conference on Intelligent User Interfaces 2014 (Haifa, Israel)
- 2014 Member of program committee of GEOSummit 2014 (Berne, Switzerland)
- 2014 Member of scientific committee of GIS Ostrava 2014 – Geoinformatics for Intelligent Transportation (Ostrava, Czech Republic)
- 2013 Senior program committee member of ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (GIS) 2013, Orlando, Florida, U.S.A.
- 2013 Member of program committee of Mobile Ghent 2013 (Ghent, Belgium)
- 2013 Invited lecturer at the International Spatial Cognition Summer Institute 2013 (ISCSI 2013), University of California, Santa Barbara, U.S.A.
- 2013 Member of program committee of COSIT 2013 – International Conference on Spatial Information Theory (Scarborough, North Yorkshire, UK)

- 2013 Member of program committee of Workshop on Geographic Human-Computer Interaction, GeoHCI 2013 (within CHI 2013, Paris, France)
- 2013 Member of program committee of 16th AGILE International Conference on Geographic Information Science (Leuven, Belgium)
- 2013 Member of program committee of Geoinformatik 2013 (Heidelberg, Germany)
- 2012 Senior program committee member of ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (GIS) 2012, Redondo Beach, California, USA
- 2012 Member of program committee of Time-Geographic Information Science: a workshop on Time-Geography (within GIScience 2012, Columbus, Ohio, USA)
- 2012 Member of program committee of Workshop on Spatial Knowledge Acquisition with Limited Information Displays, SKALID 2012 (within Spatial Cognition 2012, Kloster Seeon, Germany)
- 2012 Member of program committee of 1st International Conference on Space, Time, and CyberGIS 2012 (Champaign-Urbana, Illinois, USA)
- 2012 Member of scientific committee of 9th International Symposium on Location-Based Services (Munich, Germany)
- 2012 Member of program committee of GIScience 2012 – 7th International Conference on Geographic Information Science (Columbus, Ohio, USA)
- 2012 Member of program committee of 15th AGILE International Conference on Geographic Information Science (Avignon, France)
- 2012 Member of program committee of Geoinformatik 2012 (Braunschweig, Germany)
- 2011 Invited speaker at the Copenhagen Center for Computational Social Science Inaugural Workshop (Copenhagen, Denmark).
- 2011 Elected as member of AGILE (Association Geographic Information Laboratories Europe) Council for 4-year term
- 2011 Member of program committee of ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (GIS) 2011, Chicago, Illinois, U.S.A.
- 2011 Member of scientific committee of 8th International Symposium on Location-Based Services (Vienna, Austria)
- 2011 Co-organizer of Workshop on Cognitive Engineering for Mobile GIS (within COSIT 2011), Belfast, Maine, U.S.A.
- 2011 Member of program committee of COSIT 2011 – International Conference on Spatial Information Theory (Belfast, Maine, U.S.A.)
- 2011 Member of program committee of Geoinformatik 2011 (Münster, Germany)
- 2011 Member of program committee of 14th AGILE International Conference on Geographic Information Science (Utrecht, The Netherlands)

- 2011 Member of program committee of 22nd International Joint Conference On Artificial Intelligence (IJCAI 2011), Barcelona, Spain
- 2010 Invited participant at Specialist meeting on Spatio-Temporal Constraints on Social Networks (Santa Barbara, U.S.A.)
- 2010 Member of program committee of 3rd International Workshop on Location and the Web (LocWeb 2010), (within Internet of Things 2010, Tokyo, Japan)
- 2010 Invited speaker at International Symposium Cognitive Systems Engineering: Spatial Competence in Assistance - Training – Procedures (Etelsen Castle, Germany)
- 2010 Visiting Professor at Cognitive Systems Group, University of Bremen, Germany (June 2010)
- 2010 Member of program committee of GIScience 2010 – 6th International Conference on Geographic Information Science (Zurich, Switzerland)
- 2010 Member of program committee of Workshop On Linked Spatiotemporal Data (within GIScience 2010, Zurich, Switzerland)
- 2010 Member of program committee of Doctoral Colloquium, GIScience 2010 (Zurich, Switzerland)
- 2010 Member of program committee of Workshop Towards Digital Earth: Search, Discover and Share Geospatial Data (within Future Internet Symposium 2010, Berlin, Germany)
- 2010 Member of program committee of International Conference Spatial Cognition 2010 (Mt. Hood / Portland, Oregon, USA)
- 2010 Member of program committee of 2nd International Workshop on Spatial Awareness and Geographic Knowledge Acquisition with Small Mobile Devices (within Spatial Cognition 2010, Mt. Hood / Portland, Oregon, USA)
- 2010 Member of program committee of 2nd International Workshop on Theory and Applications Frontier of Location Based Services (within MUE'10, San Diego, CA, U.S.A.)
- 2010 Member of program committee of 13th AGILE International Conference on Geographic Information Science (Guimarães, Portugal)
- 2010 Member of program committee of Geoinformatik 2010 (Kiel, Germany)
- 2009 Invited speaker at StratAG (Strategic Research in Advanced Geotechnologies) LBS Strand Kick-off Meeting (Maynooth, Ireland)
- 2009 Program Co-Chair of GeoS 2009 – Third International Conference on Geospatial Semantics (Mexico City, Mexico)
- 2009 Tutorial organizer and lecturer—Perspectives on semantic similarity for the spatial sciences (within COSIT 2009, Aber Wrac'h, France), with A. Klippel
- 2009 Member of program committee of COSIT 2009 – International Conference on Spatial Information Theory (Aber Wrac'h, France)

- 2009 Member of program committee of Workshop on Presenting Spatial Information: Granularity, Relevance, and Integration (within COSIT'09, Aber Wrac'h, France)
- 2009 Member of program committee of Workshop GI@EarlyWarning (within AGILE'09, Hannover, Germany)
- 2009 Member of program committee of International Workshop on Theory and Applications Frontier of Location Based Services (within MUE'09, Qingdao, China)
- 2009 Member of program committee of 12th AGILE International Conference on Geographic Information Science (Hannover, Germany)
- 2009 Member of program committee of Geoinformatik 2009 – Geoinformatics – benefits for environment and society (Osnabrueck, Germany)
- 2008 Elected as member of UCGIS (University Consortium of Geographic Information Science) Board of Directors
- 2008 Member of program committee of International Conference Spatial Cognition 2008 (Freiburg, Germany)
- 2008 Member of program committee of International Workshop on You-Are-Here-Maps: Creating a Sense of Place through Map-like Representations (within Spatial Cognition 2008), (Freiburg, Germany)
- 2008 Co-organizer of First International Workshop on Information Semantics and its Implications for Geographic Analysis (within GIScience 2008), Park City, U.S.A.
- 2008 Co-organizer of First International Workshop on Trends in Pervasive and Ubiquitous Geotechnology and Geoinformation (within GIScience 2008), Park City, U.S.A.
- 2008 Member of program committee of GIScience 2008 – 5th International Conference on Geographic Information Science (Park City, U.S.A.)
- 2008 Member of program committee of GI-Days Münster 2008 – Interoperability and spatial processing in GI applications
- 2008 Invited speaker at UCTC 2008, 14th University of California Transportation Center student conference (Santa Barbara, U.S.A.)
- 2008 Member of program committee of 1st International Workshop on Location and the Web (LocWeb 2008), (Beijing, China)
- 2008 Member of program committee of 11th AGILE International Conference on Geographic Information Science (Girona, Spain)
- 2007 Invited speaker at 4th Junior Professors Symposium (Bremen, Germany)
- 2007 Member of program committee of 7th International Workshop on Web and Wireless GIS (W2GIS'07) (Cardiff, UK)
- 2007 Co-organizer of Workshop on Semantic Similarity Measurement and Geospatial Applications (within COSIT 2007), Mt Eliza, Melbourne, Australia

- 2007 Member of program committee of COSIT 2007 – Ninth International Conference on Spatial Information Theory (Mt Eliza, Melbourne, Australia)
- 2007 Member of review committee of Applications of Spatial Cognition for Intelligent Assistance Systems Workshop (at KI 2007 - 30th German Conference on Artificial Intelligence (Osnabrueck, Germany)
- 2007 Member of program committee of GI-Days 2007 – Young Researchers Forum (Münster, Germany)
- 2007 Member of program committee of 10th AGILE International Conference on Geographic Information Science (Aalborg, Denmark)
- 2007 Personal invitation to 13th German-American Frontiers of Science Symposium (Irvine, California) by Alexander von Humboldt-Foundation, Germany (in cooperation with U.S. National Academy of Sciences).
- 2006 Program Chair of GIScience 2006 – Fourth International Conference on Geographic Information Science (Münster, Germany)
- 2006 Invited speaker at 9th Austrian Surveyor's Day (Krems, Austria)
- 2006 Visiting Professor at the Institute for Geoinformation and Cartography, Vienna University of Technology, Austria (1 week, sponsored by Erasmus)
- 2006 Member of program committee of Space Syntax and Spatial Cognition Workshop (Bremen, Germany)
- 2006 Member of review committee of Spatial Cognition 2006 conference (Bremen, Germany)
- 2006 Member of program committee of 3rd CoMoGIS2006 International Workshop On Conceptual Modeling for Geographical Information Systems (Tucson, Arizona)
- 2006 Member of program committee of 6th International Workshop on Web and Wireless GIS (W2GIS'06) (Hong Kong, China)
- 2006 Member of scientific committee of MDSGEO'06 - 1st International Workshop on Modern Decision Support in Geographical Domains: Models, Methods, and Tools (Thessaloniki, Greece)
- 2006 Invited participant at Dagstuhl Seminar “Towards Affordance-Based Robot Control” (Dagstuhl castle, Germany)
- 2006 Member of program committee of AMTA'06 – First International Workshop on Agents and Multiagent Systems, from Theory to Application (Québec City, Canada)
- 2006 Member of program committee of AGILE Conference 2006 (Visegrad, Hungary)
- 2005 Invited participant at Dagstuhl Seminar “Spatial Cognition: Specialization and Integration” (Dagstuhl castle, Germany)

- 2005 Organizer of Workshop on Cognitive Engineering for Geospatial Services (within COSIT 2005), Ellicottville, New York (with Pragya Agarwal)
- 2005 Guest lecturer at the Department of Geography, University of Klagenfurt, Austria (1 week, sponsored by Erasmus)
- 2005 Elected as member of AGILE (Association Geographic Information Laboratories Europe) Council for 4-year term
- 2005 Member of program committee of COSIT 2005 – (Ellicottville, New York)
- 2005 Member of program committee of GI-Days Münster 2005 – Geosensor networks: from research to applications
- 2005 Member of program committee of AGILE Conference 2005 (Estoril, Portugal)
- 2004 Invited participant at NCGIA Specialist meeting on Spatial Webs (Santa Barbara, U.S.A.)
- 2004 Co-organizer of Workshop on the Potential of Cognitive Semantics for Ontologies (within FOIS 2004), Torino, Italy
- 2004 Guest lecturer at the Department of Geography, University of Klagenfurt, Austria (1 week, sponsored by Erasmus)
- 2004 Member of review committee of Spatial Cognition 2004 conference (Frauenchiemsee Island, Bavaria, Germany)
- 2004 Member of program committee of GIScience 2004 – Third International Conference on Geographic Information Science (Maryland, U.S.A.)
- 2004 Program Chair of GI-Days Münster 2004 – GI & Mobility
- 2004 Invited speaker at Euresco Conference on Geovisualisation (Crete, Greece)
- 2004 Member of program committee of AGILE Conference 2004 – GI in the European Research Area (Crete, Greece)
- 2003 Invited lecturer at the International Spatial Cognition Summer Institute, Bad Zwischenahn, Germany (sponsored by the International Quality Network on Spatial Cognition)
- 2003 Guest lecturer at the Department of Geography, University of Klagenfurt, Austria (1 week, sponsored by Erasmus)
- 2003 Euresco Conference Modeling for Wayfinding Services, Bad Herrenalb, Germany: Invited speaker
- 2003 Member of program committee of GI-Days Münster 2003 – Geodata- and service infrastructures: from research to applications
- 2002 Visitor at the Department of Geography, University of Utah, Salt Lake City (2 weeks, sponsored by DAAD, Germany)
- 2002 ACTOR2002 (NSF-sponsored research workshop on Action-Oriented Approaches in Geographic Information Science, Maine, U.S.A.): Invited participant

1996 NCGIA I21 - Specialist Meeting “Formal Models of Common-Sense Geographic Worlds” in San Marcos, Texas (Oct. 30th - Nov. 3rd 1996): Participant and rapporteur

Funded projects

2018 – 2020	Enhancing the 3D DSS for supporting the planning of electric power systems: Integration of underground cables (Swiss Federal Office of Energy, Industry; PI: Raubal)	CHF 499,000
2017 – 2020	Efficient Technologies and Systems for Mobility – Swiss Competence Center for Energy Research (Commission for Technology and Innovation; PI: Boulouchos; Capacity Area B1 Coordinator: Raubal)	CHF 516,506 [Total funding: CHF 15.2 Mio.]
2017 – 2020	Future Swiss Electrical Infrastructure – Swiss Competence Center for Energy Research (Commission for Technology and Innovation; PI: Paolone, Co-Academic partner: Raubal)	CHF 292,560 [Total funding: CHF 17 Mio.]
2016 – 2017	OMLETH II: Development of a broader application for the platform for location-based mobile learning at ETH (Innovedum fund, ETH Zurich; PI: Raubal, Manager: Kiefer)	CHF 83,330
2015 – 2018	Intention-Aware Gaze-Based Assistance on Maps (Swiss National Science Foundation; PI: Kiefer, Co-PI: Raubal)	CHF 179,308
2015 – 2017	Enhanced flight training program for monitoring aircraft automation (Federal Office of Civil Aviation; PI: Ammann, Swiss International Air Lines Ltd., Co-PI: Raubal)	CHF 333,732
2014 – 2017	GoEco! A community based eco-feedback approach to promote sustainable personal mobility styles (Swiss National Science Foundation NRP71; PI: Rudel, Co-PI: Raubal)	CHF 405,719
2014 – 2018	Infrastructure for Future Electricity Markets (Swiss National Science Foundation NRP70; PI: Demiray, Co-PIs: Raubal, Abhari)	CHF 499,900
2014 – 2017	Application of 3D Geographic Information Systems for transparent and sustainable planning of electric power systems (Swiss Federal Office of Energy, Industry; PI: Raubal)	CHF 629,800
2014 – 2016	Efficient Technologies and Systems for Mobility – Swiss Competence Center for Energy Research (Commission for Technology and Innovation; PI: Boulouchos; Capacity Area B1 Co-Coordinator: Raubal)	CHF 424,500 [Total funding: CHF 10 Mio.]
2014 – 2016	Future Swiss Electrical Infrastructure – Swiss Competence Center for Energy Research (Commission for Technology and Innovation; PI: Paolone, Co-Academic partner: Raubal)	CHF 195,000 [Total funding: CHF 10 Mio.]

2014 – 2015	OMLETH: A Platform for Location-Based Mobile Learning at ETH (Innovedum fund, ETH Zurich; PI: Raubal, Manager: Kiefer)	CHF 109,000
2012 – 2015	System modelling for assessing the potential of decentralised biomass-CHP plants to stabilise the Swiss electricity network with increased fluctuating renewable generation (swisselectric, BfE; PI: Boulouchos, Co-PIs: Raubal, Demiray, Turton)	CHF 1.050,000
2012 – 2013	Characterizing human mobility from mobile phone usage (Swiss National Science Foundation; PI: Raubal)	CHF 78,416
2012	Dwight David Eisenhower Graduate Fellowship – Yihong Yuan (U.S. Department of Transportation; PI: Raubal)	\$ 5,000
2010 – 2011	The Synergy of Transportation, Social, and Data Networks, Spring 2010 Dissertation Award – Edward Pultar (U.S. Department of Transportation; PI: Raubal)	\$ 20,000
2009 – 2011	Geospatial Feature Conflation: Conceptual, Statistical, and Optimization Approaches (National Geospatial Intelligence Agency – NGA University Research Initiatives; PI: Goodchild, Co-PI: Raubal)	\$ 288,548
2009 – 2010	A Metric Conceptual Space Algebra for the Semantic Web (Faculty Research Grant, Academic Senate, University of California, Santa Barbara; PI: Raubal)	\$ 5,297
2008 – 2009	Instructional Improvement Grant: Undergraduate / Graduate Geography GIScience Course Series (Academic Senate, University of California, Santa Barbara; PIs: Clarke, Goodchild, Raubal)	\$ 11,748
2006 – 2008	Semantic Similarity Measurement for Role-Governed Geospatial Categories (German Research Foundation, PI: Raubal)	€ 265,000
2006 – 2007	Novel Technologies for Spatial Decision Support (German Academic Exchange Service, PI: Raubal)	€ 10,240
2004 – 2006	Semantic Reference Systems for Geospatial Information (German Research Foundation; PI: Kuhn, Co-PI: Raubal)	€ 130,000
2004	Researcher grant (University of Münster, PI: Raubal)	€ 4,000

Active project participation

2009 – 2011	Virtual Co-laboratory for Policy Analysis in Greater L.A., Multicampus Research Programs and Initiatives Project (UC): GIS and visualization
2004 – 2006	MEDIS (Towards sustainable water use on Mediterranean Islands: addressing conflicting demands and varying hydrological, social and economic conditions) Project (EC): Project leader at ifgi
1998 – 2000	PANEL-GI (Pan European Link for Geographical Information) Project (EC): Organization and research
1998 – 1999	COMMUTER (Co-operative multi-dimensional multimedia and topological elements reintegration) Project (EC): Research

Editorship and Editorial board

Journal of Location Based Services, *Taylor & Francis* (Associate Editor since 2013; EB since 2006)

Annals of the American Association of Geographers, *Taylor & Francis* (EB since 2018)

Spatial Cognition and Computation, *Taylor & Francis* (EB since 2013)

Journal of Spatial Information Science, *Open-access* (EB since 2009)

Transactions in GIS, *Blackwell* (EB since 2006)

Geography Compass, *Blackwell* (EB since 2006)

Semantic Web Journal, *IOS Press* (EB 2009 - 2012)

Referee for

Journals

International Journal of Geographical Information Science; Transactions in GIS; GeoInformatica; Spatial Cognition and Computation; ISPRS Journal of Photogrammetry and Remote Sensing; Geographical Analysis; Professional Geographer; Nature Human Behaviour; Geography Compass; Cartography and Geographic Information Science; Cartographica; Environment & Planning B; Journal of Geographical Systems; Journal of Location-Based Services; Memory & Cognition; International Journal of Applied Earth Observation and Geoinformation; International Journal of Sustainable Transportation; IET Intelligent Transport Systems; Journal of Transport Geography; Computers, Environment and Urban Systems; Environmental Engineering Science; International Journal of Spatial Data Infrastructures Research; Data & Knowledge Engineering; Urban Planning; Tourism Geographies; Photogrammetrie, Fernerkundung, Geoinformation (PFG); Moravian Geographical Reports; *gis.SCIENCE*; Automation in Construction; Forestry: An International Journal of Forest Research; Künstliche Intelligenz (KI)

Conferences

Conference on Spatial Information Theory, COSIT (2003 - 2017); Conference on Geographic Information Science, GIScience (2004, 2008 - 2018); ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (2011 - 2014); International Joint Conference On Artificial Intelligence, IJCAI (2011); International Conference on Intelligent User Interfaces, IUI (2012, 2014); Conference on Human Factors in Computing Systems, CHI (2006, 2015, 2018); International Conference on Human Computer Interaction with Mobile Devices and Services, MobileHCI (2013); International Conference on Mobile and Ubiquitous Multimedia, MUM (2013); Spatial Cognition (2004 - 2012); Symposium on Location Based Services, LBS (2011 - 2016); Conference on Ubiquitous Computing, UbiComp (2003, 2008); International Conference on Geosensor Networks, GSN (2011); AGILE Conference on Geographic Information Science (2004 - 2018); Münster GI-Days (2003 - 2008); Geoinformatik (2009 - 2013); GIS Ostrava (2014 - 2017); World Council on Transportation Research (WCTR) Meeting (2007)

Organizations and Programs

U.S. National Science Foundation; Swiss National Science Foundation; Science Foundation Ireland; German Science Foundation; GEOTECHNOLOGIEN, Germany; GEOIDE, Canada; Austrian Federal Ministry of Science and Research (BMWF); Austrian Federal Ministry for Transport, Innovation and Technology (bmvit); Austrian Agency for International Cooperation in

Education and Research (Sparkling Science); Korean-Swiss Science and Technology Program; Innovedum (ETH Zurich)

University Service

2018 – 2020	Director of Studies (Spatial Engineering), ETH Zurich
2017 –	Teaching Commission, ETH Zurich
2017 – 2019	Chair, Institute of Cartography and Geoinformation, ETH Zurich
2016 – 2017	Strategic Commission, D-BAUG, ETH Zurich
2015 – 2017	Vice-Chair, Institute of Cartography and Geoinformation, ETH Zurich
2016 – 2018	Co-Director of Studies (Geomatic Engineering), ETH Zurich
2013 – 2015	Chair, Institute of Cartography and Geoinformation, ETH Zurich
2013 – 2015	Co-Director of Studies (Geomatic Engineering), ETH Zurich
2011 – 2013	Vice-Chair, Institute of Cartography and Geoinformation, ETH Zurich
2009 – 2011	Vice-Chair, Department of Geography, UCSB
2009 – 2011	Chair of Graduate Committee, Department of Geography, UCSB
2009 – 2010	Enterprise Information Systems Planning Group, UCSB
2009	Student Information System Replacement Steering Committee, UCSB
2009 – 2011	Academic Technology Planning Group, UCSB
2008 – 2010	Committee on Computing and Communications, UC
2008 – 2010	Academic Senate Council on Research and Instructional Resources, UCSB
2008 – 2010	Senate Committee on Library, Information, and Instructional Resources, UCSB
2008 – 2009	Curriculum Committee, Department of Geography, UCSB
2007 – 2009	Events Committee, Department of Geography, UCSB
2007 – 2011	Graduate Committee, Department of Geography, UCSB
2007 – 2011	Cognitive Science Program Steering Committee, UCSB
2007 – 2009	Advisory Committee on Campus Access, UCSB
2007 – 2008	Information Systems & Services Advisory Committee, Department of Geography, UCSB
2005 – 2006	Habilitation commission, School of Geosciences, University of Münster
2005 – 2006	Examination board for Geoinformatics, Institute for Geoinformatics, University of Münster
2005 – 2006	Course coordinator, Institute for Geoinformatics, University of Münster
2004 – 2006	Board of directors, Institute for Geoinformatics, University of Münster
2003 – 2006	Student advisor for Geoinformatics, Institute for Geoinformatics, University of Münster

2003 – 2005	Ph.D. commission, School of Geosciences, University of Münster
2003 – 2004	Faculty Search Committee (C3, Geoinformatics), Institute for Geoinformatics, University of Münster
2003 – 2004	Faculty committee, School of Geosciences, University of Münster
2002 – 2003	Faculty Search Committee (C4, Geoinformatics), Institute for Geoinformatics, University of Münster

Industry Experience

1993 – 1995	Part-time work as a surveyor for the Surveying Bureau “Feuereis & Lichtenstoeger”, Austria
1987 – 1990	6 months full-time work as a surveyor for the Austrian Surveying Agency (BEV)

Teaching

Spring 2017	Geographic Information Systems II (Lecture, Undergrad) GEOG 205 – Introduction to Geographical Information Systems (Lecture part, Undergrad, University of Canterbury, Christchurch, NZ) GEOG 324 – Advanced GIS (Lecture part, Undergrad, University of Canterbury, Christchurch, NZ)
Fall 2016	Geographic Information Systems I (Lecture, Undergrad) Geographic Information Systems III (Lecture, Grad)
Spring 2016	Geographic Information Systems II (Lecture, Undergrad)
Spring 2015	Geographic Information Systems II (Lecture, Undergrad)
Fall 2014	Geographic Information Systems I (Lecture, Undergrad) Geographic Information Systems III (Lecture, Grad)
Spring 2014	Geographic Information Systems II (Lecture, Undergrad) Geodata Analysis (Lecture, Undergrad)
Fall 2013	Geographic Information Systems I (Lecture, Undergrad) Geographic Information Systems III (Lecture, Grad)
Summer 2013	Cognitive Issues in GIS (Lecture at International Spatial Cognition Summer Institute 2013, University of California, Santa Barbara, U.S.A)
Spring 2013	Geographic Information Systems II (Lecture, Undergrad)
Fall 2012	Geographic Information Systems I (Lecture, Undergrad) Geographic Information Systems III (Lecture, Grad) Mobile GIS & Location Based Services (Lecture, Grad, with Peter Kiefer)
Spring 2012	Geographic Information Systems II (Lecture, Undergrad)
Fall 2011	Geographic Information Systems I (Lecture, Undergrad) Geographic Information Systems III (Lecture, Grad)
Winter 2010	GEOG 288MR, Location Based Services (Seminar, Grad)

Summer 2010	Semantic Similarity Measurement and Spatial Applications (Seminar at University of Bremen, with Alexander Klippel)
Spring 2010	GEOG 176C, GIS Applications (Lecture & Labs, Undergrad) GEOG 596, Directed Reading & Research “Functions & Applications of Spatial Cognition” (with Dan Montello)
Winter 2009	GEOG 200B, Introduction to Geographic Research (Lecture Seminar, Grad) INT 200B, Seminar in Cognitive Science (Seminar, Grad)
Fall 2009	GEOG 183, Cartographic Design & Geovisualization (Lectures & Labs, Undergrad)
Summer 2009	Geographic Visualization (Lectures & Labs at University of Münster)
Spring 2009	GEOG 231, Cognitive Issues in Geographic Information Science (Seminar, Grad)
Winter 2008	GEOG 200B, Introduction to Geographic Research (Lecture Seminar, Grad)
Fall 2008	GEOG 183, Cartographic Design & Geovisualization (Lectures & Labs, Undergrad)
Spring 2008	GEOG 184C, Geographic Visualization (Lecture & Labs, Undergrad) GEOG 288MR, Semantic Similarity Measurement and Geographic Applications (Seminar, Grad)
Fall 2007	GEOG 176A, Intro to GIS (Lecture & Labs, Undergrad) GEOG 118, Cartographic Design (Lecture & Labs, Undergrad)
Spring 2007	GEOG 184C, Geographic Visualization (Lecture & Labs, Undergrad) GEOG 288MR, Time in GIS (Seminar, Grad)
Winter 2006	GEOG 596, Directed Reading & Research “Applied Spatial Cognition” (with Dan Montello) GEOG 597, Independent Study – PhD Exam Introduction to Digital Cartography (Labs, 1 st year)
Summer 2006	Introduction to Digital Cartography (Labs, 2 nd year) Pedestrian navigation services (Study project, 4 th year) Introduction to Geographic Information Science (Lecture part, 3 rd year) Semantics and Ontologies in Geographic Information Services – Theory and Applications (Lecture & Labs at Vienna University of Technology; with M. Lutz)
Winter 2005	Cognitive Aspects in Geographic Information Science (Seminar, 4 th year) Pedestrian navigation services (Study project, 4 th year) Dynamic route planning (Labs, 4 th year)
Summer 2005	Introduction to Research Methods (Seminar, 4 th year) Introduction to Digital Cartography (Labs, 2 nd year) Semantics and Ontologies in Geographic Information Services – Theory and Applications (Workshop at University of Klagenfurt; with M. Lutz and M. Hall)
Winter 2004	Time in GIS (Seminar, 4 th year) Introduction to Geoinformatics (Labs and lecture part, 2 nd year)

Summer 2004	Introduction to Research Methods (Seminar, 4 th year) Introduction to Digital Cartography (Labs, 2 nd year) Mobile Geocomputing (Labs at University of Klagenfurt, 2 nd year)
Winter 2003	Cognitive Aspects in Geographic Information Science (Seminar, 4 th year) Introduction to Geoinformatics (Labs and lecture part, 2 nd year) Introduction to Digital Cartography (Labs, 2 nd year)
Summer 2003	Cognitive Aspects of Wayfinding (Lecture at Int. Spatial Cognition Summer Institute; with H. Hochmair and S. Timpf) Evaluation of GIS (Lecture at University of Klagenfurt, 2 nd year) Evaluation of GIS (Seminar, 4 th year) Introduction to Digital Cartography (Labs and lecture part, 2 nd year)
Winter 2002	Spatial Cognition and Wayfinding (Seminar, 4 th year) Introduction to Geoinformatics (Labs, 2 nd year)
Summer 2002	Introduction to Digital Cartography (Labs and lecture part, 2 nd year)
Winter 2001	Evaluation of GIS (Lectures & Labs, 5 th year) Introduction to GIS (Labs, 2 nd year) Spatial Information Systems (Labs, 3 rd year) Geographic Information Systems for Computer Scientists (Labs) Spatial Information Systems – Field Camp (Analysis, 4 th year)
Summer 2001	Geometric Data Management (Labs, 4 th year) Geographic Information Systems for Computer Scientists (Labs) Public domain Geographic Information Systems (Labs, 4 th year)
Winter 2000	Evaluation of GIS (Lectures & Labs, 5 th year) Spatial Information Systems (Labs, 3 rd year) Geographic Information Systems for Computer Scientists (Labs) Spatial Information Systems – Field Camp (Analysis, 4 th year) Temporal Data for Geographic Information Systems (Labs, 4 th year)
Summer 2000	Geometric Data Management (Labs, 4 th year) Geographic Information Systems for Computer Scientists (Labs)
Winter 1999	Spatial Information Systems (Labs, 3 rd year) Geographic Information Systems for Computer Scientists (Labs)
Summer 1999	Geometric Data Management (Labs, 4 th year) Geographic Information Systems for Computer Scientists (Labs)
Winter 1995	Spatial Information Systems – Field Camp (Analysis, 4 th year, Teaching Assistant)

Ph.D. theses supervised (*: co-supervised)

1. Kwok, T. (in progress): Tbd. Institute of Cartography and Geoinformation, ETH Zurich
2. Martin, H. (in progress): Tbd. Institute of Cartography and Geoinformation, ETH Zurich
3. Göbel, F. (in progress): Visual Attentive User Interfaces for GIS. Institute of Cartography and Geoinformation, ETH Zurich.
4. Bucher, D. (in progress): Universal Matching of User Needs in Real-Time. Institute of Cartography and Geoinformation, ETH Zurich.

5. Schito, J. (in progress): Application of 3D Geographic Information Systems for transparent and sustainable planning of electric power systems. Institute of Cartography and Geoinformation, ETH Zurich.
6. Rudi, D. (in progress): Enhancing spatial awareness in cockpits. Institute of Cartography and Geoinformation, ETH Zurich.
7. Sailer, C. (in progress): Impact of teaching with mobile spatial learning platforms in context-based and situative learning environments. Institute of Cartography and Geoinformation, ETH Zurich.
8. Buffat, R. (in progress): Spatial location optimization of biogas production plants and a biogenic CHP swarm in Switzerland. Institute of Cartography and Geoinformation, ETH Zurich.
9. Giannopoulos, I. (2016): Supporting Wayfinding Through Mobile Gaze-Based Interaction. Institute of Cartography and Geoinformation, ETH Zurich.
Current occupation: Professor, Department of Geodesy and Geoinformation, Vienna University of Technology.
10. Grassi, S. (2016): An integrated spatial optimization model for renewable energy. Institute of Cartography and Geoinformation, ETH Zurich.
Current occupation: Founder and CEO, Gilytics, Zurich, Switzerland.
11. *McKenzie, G. (2015): A Temporal Approach to Defining Place Types based on User-Contributed Geosocial Content. Department of Geography, University of California, Santa Barbara, U.S.A. (co-supervised with K. Janowicz)
Current occupation: Assistant Professor, Department of Geographical Sciences, University of Maryland, College Park, U.S.A.
12. Yuan, Y. (2013): Characterizing human mobility from mobile phone usage. Department of Geography, University of California, Santa Barbara, U.S.A.
Current occupation: Assistant Professor, Department of Geography, Texas State University, U.S.A.
13. Adams, B. (2012): Operationalizing Place: Discovering, reasoning about, and exploring place knowledge from descriptions. Department of Computer Science, University of California, Santa Barbara, U.S.A.
Current occupation: Senior Lecturer in Geographic Information Science, Dept. of Geography, University of Canterbury, Christchurch, New Zealand.
14. *Dara-Abrams, D. (2011): The World in the Head: Measuring People's Spatial Knowledge and Travel Patterns Using Mobile Devices. Department of Geography, University of California, Santa Barbara, U.S.A. (co-supervised with D. Montello)
Current occupation: Transit & Urban Design Lead, Mapzen, San Francisco, California.
15. Pultar, E. (2011): The Role of Geography in Social Networks: CouchSurfing as a Case Study. Department of Geography, University of California, Santa Barbara, U.S.A.
Current occupation: President, Founding Partner, Geographic Information Scientist, Valarm
16. Kessler, C. (2010): Context-Aware Semantics-Based Information Retrieval. Institute for Geoinformatics, University of Münster, Germany.
Current occupation: Associate Professor for Geoinformatics, Department of Development and Planning, Aalborg University Copenhagen, Denmark

17. *Janowicz, K. (2008): Computing Semantic Similarity among Geographic Feature Types Represented in Expressive Description Logics. Institute for Geoinformatics, University of Münster, Germany (co-supervised with W. Kuhn).
Current occupation: Associate Professor, Department of Geography, University of California, Santa Barbara

Ph.D. committee member

1. Hahn, J. (2016): Context Algebra applied to Spatial Concepts. Department of Geodesy and Geoinformation, Vienna University of Technology, Austria.
2. Crease, P. (2014): Representation of Geographic Relevance in Mobile Applications. Department of Geography, University of Zürich, Switzerland.
3. Huang, H. (2013): Learning from location histories for POI recommendations in LBS. Department of Geodesy and Geoinformation, Vienna University of Technology, Austria.
4. Xiao, D. (2013): Individual and Cultural Differences in the Interpretation and Generation of Natural Language Descriptions of Spatial Layout. Department of Geography, University of California, Santa Barbara, U.S.A.
5. Simons, N. (2013): Improving Decision Making During Wildland Fire Events. Department of Geography, State University of San Diego & Department of Geography, University of California, Santa Barbara, U.S.A.
6. Deutsch, K. (2013): An Investigation in Decision Making and Destination Choice Incorporating Place Meaning and Social Network Influences. Department of Geography, University of California, Santa Barbara, U.S.A.
7. Ortmann, J. (2013): Semantic Integration of Human and Technical Observations. Institute for Geoinformatics, University of Münster, Germany.
8. Swobodzinski, M. (2012): Exploring Human Decision Making in the Context of Web-Based Public Participation in Transportation Planning. Department of Geography, State University of San Diego & Department of Geography, University of California, Santa Barbara, U.S.A.
9. Kritzler, M. (2011): Spatio-Temporal Data Analysis Framework for Moving Entities based upon Heterogeneous Tracking Systems. Institute for Geoinformatics, University of Münster, Germany.
10. Henson, K. (2011): Travel Determinants and Multi-scale Transferability of National Activity Patterns to Local Populations. Department of Geography, University of California, Santa Barbara, U.S.A.
11. Grossner, K. (2010): Representing Historical Knowledge in Geographic Information Systems. Department of Geography, University of California, Santa Barbara, U.S.A.
12. Yoon, S. Y. (2010): Impact of time-space prism accessibility on time use behavior and its propagation through intra-household interaction. Department of Geography, University of California, Santa Barbara, U.S.A.
13. Pingel, T. (2010): Strategic Elements of Route Choice. Department of Geography, University of California, Santa Barbara, U.S.A.

14. Schwering, A. (2006): Semantic Similarity Measurement including Spatial Relations for Semantic Information Retrieval of Geo-Spatial Data. Institute for Geoinformatics, University of Münster, Germany.
15. Steinicke, F. (2006): Multimodal Metaphors for Generic Interaction Tasks in Virtual Environments. Department of Computer Science, University of Münster, Germany.
16. Einspanier, U. (2006): Formal Metamodeling for the Specification and Implementation of Feature Catalogues. Institute for Geoinformatics, University of Münster, Germany.

Ph.D. examiner / opponent

1. Götze, J. (2016): Talk the walk – Empirical studies and data-driven methods for geographical natural language applications. School of Computer Science and Communication, KTH Royal Institute of Technology, Stockholm, Sweden.
2. Kettunen, P. (2014): Analysing Landmarks in Nature and Elements of Geospatial Images to Support Wayfinding. School of Engineering, Aalto University, Finland.
3. Webber, E. (2014): Strategy Differences in the use of Mobile Devices for Navigation. Engineering Faculty, The University of Nottingham, UK.
4. Sagl, G. (2012): Spatio-Temporal Analyses of Environmental and Social In Situ Sensor Data. Doctoral College Geographic Information Science, Paris Lodron University Salzburg, Austria.
5. Kiefer, P. (2011): The Mobile Intention Recognition Problem And An Approach Based On Spatially-Constrained Grammars. Faculty of Information Systems and Applied Computer Science. University of Bamberg, Germany.
6. Wang, Z. (2010): Proactive Traffic Control Strategies for Sensor-Enabled Cars. Department of Computer Science and Software Engineering. The University of Melbourne, Australia.

Master theses supervised (*: co-supervised)

1. Allemann, D. (2013): Determining usage differences between bikes and e-bikes. Institute of Cartography and Geoinformation, ETH Zurich.
2. Leu, E. (2012): Integration of travel information in a calendar application. Institute of Cartography and Geoinformation, ETH Zurich.
3. Wosniok, C. (2010): A Context-Aware Surf Spot Search Engine Based on Conceptual Spaces. Institute for Geoinformatics, University of Münster, Germany. In cooperation with Department of Geography, University of California, Santa Barbara.
4. *McDaniel, M. (2010): Agent-Based Modeling of Lost Person Wayfinding. Department of Geography, University of California, Santa Barbara.
5. Wilkes, M. (2008): A graph-based alignment approach to context-sensitive similarity between climbing routes. Institute for Geoinformatics, University of Münster, Germany. In cooperation with Department of Geography, University of California, Santa Barbara.
6. *Hecht, B. (2007): Utilizing Wikipedia as a Spatiotemporal Knowledge Repository. Department of Geography, University of California, Santa Barbara.

7. Espeter, M. (2007): Location-based decision support for user groups. Institute for Geoinformatics, University of Münster, Germany. In cooperation with Department of Geography, University of California, Santa Barbara.
8. Panov, I. (2007): A Formal Model for Mobile Map Adaptation in Pedestrian Navigation. Institute for Geoinformatics, University of Münster, Germany. In cooperation with Department of Geography, University of California, Santa Barbara.
9. *Schöning, J. (2007): Interaction of mobile devices with public paper maps. Institute for Geoinformatics, University of Münster, Germany. In cooperation with Department of Geography, University of California, Santa Barbara.
10. Tessmann, S. (2006): Time geography for efficient shared-ride trip planning in transportation networks. Institute for Geoinformatics, University of Münster, Germany.
11. Debal, T. (2006): Optimierung nutzerspezifischer Aufgabenabläufe mit Location Based Services (Optimization of user-specific task processes with Location Based Services). Institute for Geoinformatics, University of Münster, Germany.
12. Kritzler, M. (2006): RFID-Ortungs- und Bewegungsanalyse von transgenen Mäusen zur Untersuchung der Alzheimer-Krankheit (Mousetracking with RFID in a transgenic animal model of Alzheimer's disease). Institute for Geoinformatics, University of Münster, Germany. In cooperation with Institute of Neuro and Behavioural Biology, University of Münster, Germany.
13. Swobodzinski, M. (2006): Route calculation constraints for an indoor navigation service for the blind. Institute for Geoinformatics, University of Münster, Germany.
14. Lautenschütz, A.-K. (2006): Spatial Relations – The influence of scale, context and spatial relation in linguistic topology. Institute for Geoinformatics, University of Münster, Germany. In cooperation with Ordnance Survey, U.K.
15. Wilmes, T. (2005): Technische Nutzbarkeitsanalyse von Triggered Location Services in zellulären Netzen (Technical usability analysis of Triggered Location Services in cellular networks). Institute for Geoinformatics, University of Münster, Germany.
16. Tomberge, P. (2005): Navigation mittels RFID - Navigationsmöglichkeiten durch RFID-Eintrittskarten bei der WM 2006 (Navigation with RFID – navigation solutions through RFID tickets at the 2006 FIFA World Cup in Germany). Institute for Geoinformatics, University of Münster, Germany.
17. Kessler, C. (2004): Design and implementation of argumentation maps. Institute for Geoinformatics, University of Münster, Germany. In cooperation with Department of Geography, University of Toronto, Canada.
18. *Grüning, D. (2004): Ein Werkzeug zur automatischen Ontologie-Übertragung zwischen Haskell und UML (A tool for automatic ontology-transfer between Haskell and UML). Institute for Geoinformatics, University of Münster, Germany.
19. Redbrake, D. (2003): Ontology-driven wrappers for navigation services. Institute for Geoinformatics, University of Münster, Germany.

Master's committee member

1. Wiehr, F. (2016): Passively Collecting Location and Activity Data for measuring Spatial Familiarity. Department of Computer Science, Saarland University, Germany.

2. Baglatzi, A. (2012): Semantic Transformations Between Land Cover Classification Systems. Institute for Geoinformatics, University of Münster, Germany.
3. Currier, K. (2011): Auditory Representation in Spatial Applications. Department of Geography, University of California, Santa Barbara, U.S.A.
4. Burte, H. (2011): Individual Differences in Spatial Knowledge Acquisition: The Interaction Between Sense of Direction and Attention While Learning Real-World Environments. Department of Geography, University of California, Santa Barbara.

Publications

Articles in Refereed Journals

1. R. Buffat, S. Grassi, and **M. Raubal** (2018) A scalable method for estimating rooftop solar irradiation potential over large regions. *Applied Energy* 216: 389-401.
2. R. Buffat, A. Froemelt, N. Heeren, **M. Raubal**, and S. Hellweg (2017) Big data GIS analysis for novel approaches in building stock modelling. *Applied Energy* 208: 277-290.
3. R. Buffat, D. Bucher, and **M. Raubal** (2017) Using locally produced photovoltaic energy to charge electric vehicles. *Computer Science - Research and Development*: 1-11.
4. V. Anagnostopoulos, M. Havlena, P. Kiefer, I. Giannopoulos, K. Schindler, and **M. Raubal** (2017) Gaze-Informed location-based services. *International Journal of Geographic Information Science* 31(9): 1770-1797.
5. C. Gkonos, I. Giannopoulos, and **M. Raubal** (2017) Maps, vibration or gaze? Comparison of novel navigation assistance in indoor and outdoor environments. *Journal of Location Based Services*. [dx.doi.org/10.1080/17489725.2017.1323125](https://doi.org/10.1080/17489725.2017.1323125)
6. F. Veronesi, J. Schito, S. Grassi, and **M. Raubal** (2017) Automatic selection of weights for GIS-based multicriteria decision analysis: site selection of transmission towers as a case study. *Applied Geography* 83: 78-85.
7. P. Kiefer, I. Giannopoulos, **M. Raubal**, and A. Duchowski (2017) Eye tracking for spatial research: Cognition, computation, challenges. *Spatial Cognition & Computation* 17(1-2): 1-19.
8. P. Kiefer, I. Giannopoulos, V. Anagnostopoulos, J. Schöning, and **M. Raubal** (2017) Controllability matters: The user experience of adaptive maps. *GeoInformatica* 21(3): 619-641.
9. C. Sailer, P. Kiefer, J. Schito, and **M. Raubal** (2016) Map-based Visual Analytics of Moving Learners. *International Journal of Mobile Human Computer Interaction* 8(4): 1-28.
10. Y. Yuan and **M. Raubal** (2016) Exploring Georeferenced Mobile Phone Datasets - A Survey and Reference Framework. *Geography Compass* 10(6): 239-252.
11. Y. Yuan and **M. Raubal** (2016) Analyzing the distribution of human activity space from mobile phone usage - An individual and urban-oriented study. *International Journal of Geographical Information Science* 30(8): 1594-1621.
12. F. Veronesi, S. Grassi, and **M. Raubal** (2016) Statistical learning approach for wind resource assessment. *Renewable & Sustainable Energy Reviews*. 56: 836-850.

13. A. Korfiati, C. Gkonos, F. Veronesi, A. Gaki, S. Grassi, R. Schenkel, S. Volkwein, **M. Raubal**, and L. Hurni (2016) Estimation of the Global Solar Energy Potential and Photovoltaic Cost with the use of Open Data. *International Journal of Sustainable Energy Planning and Management* 9: 17-30.
14. P. Weiser, S. Scheider, D. Bucher, P. Kiefer, and **M. Raubal** (2016) Towards sustainable mobility behavior: research challenges for location-aware information and communication technology. *GeoInformatica* 20: 213-239.
15. R. Ahas, A. Aasa, Y. Yuan, **M. Raubal**, Z. Smoreda, Y. Liu, C. Ziemlicki, M. Tiru, and M. Zook (2015) Everyday space–time geographies: using mobile phone-based sensor data to monitor urban activity in Harbin, Paris, and Tallinn. *International Journal of Geographical Information Science* 29(11): 2017–2039.
16. I. Giannopoulos, J. Schöning, A. Krüger, and **M. Raubal** (2014) Attention as an Input Modality for Post-WIMP Interfaces Using the viGaze Eye Tracking Framework. *Multimedia Tools and Applications*.
17. Y. Yuan and **M. Raubal** (2014) Measuring similarity of mobile phone user trajectories - a Spatio-temporal Edit Distance method. *International Journal of Geographical Information Science* 28(3): 496-520.
18. S. Grassi, S. Junghans, and **M. Raubal** (2014). Assessment of the wake effect on the energy production of onshore wind farms using GIS. *Applied Energy* 136, 827-837.
19. P. Kiefer, I. Giannopoulos, and **M. Raubal** (2014) Where am I? Investigating map matching during self-localization with mobile eye tracking in an urban environment. *Transactions in GIS* 18(5): 660-686.
20. **M. Raubal**, G. Jacquez, J. Wilson, and W. Kuhn (2013) Synthesizing population, health, and place. *Journal of Spatial Information Science* 2013(7): 103-108.
21. Y. Yuan, **M. Raubal**, and Y. Liu (2012) Correlating Mobile Phone Usage and Travel Behavior - A Case Study of Harbin, China. *Computers, Environment and Urban Systems*. 36(2): 118-130.
22. K. Janowicz, **M. Raubal**, and W. Kuhn (2011) The Semantics of Similarity in Geographic Information Retrieval. *Journal of Spatial Information Science* (2): 29-57.
23. **M. Raubal** and B. Adams (2010) The Semantic Web Needs More Cognition. *Semantic Web* 1(1-2): 69-74.
24. M. Espeter and **M. Raubal** (2009) Location-based decision support for user groups. *Journal of Location Based Services* 3(3): 165-187.
25. M. Swobodzinski and **M. Raubal** (2009) An Indoor Routing Algorithm for the Blind: Development and Comparison to a Routing Algorithm for the Sighted. *International Journal of Geographical Information Science* 23(10): 1315-1343.
26. E. Pultar, **M. Raubal**, T. Cova, and M. Goodchild (2009) Dynamic GIS Case Studies: Wildfire Evacuation and Volunteered Geographic Information. *Transactions in GIS* 13(s1): 85-104.
27. **M. Raubal** (2009) Cognitive Engineering for Geographic Information Science. *Geography Compass* 3(3): 1087–1104.
28. K. Janowicz, **M. Raubal**, A. Schwering, and W. Kuhn (2008) Semantic Similarity Measurement and Geospatial Applications (Editorial). *Transactions in GIS* 12(6): 651-659.

29. **M. Raubal**, S. Winter, S. Teßmann, and C. Gaisbauer (2007) Time geography for ad-hoc shared-ride trip planning in mobile geosensor networks. *ISPRS Journal of Photogrammetry and Remote Sensing*. 62(5): 366-381.
30. M. Kritzler, **M. Raubal**, and A. Krüger (2007) A GIS framework for spatio-temporal analysis and visualization of laboratory mice tracking data. *Transactions in GIS*. 11(5): 765-782.
31. W. Kuhn, **M. Raubal**, and P. Gärdenfors (2007) Cognitive Semantics and Spatio-Temporal Ontologies (Editorial). *Spatial Cognition and Computation* 7(1): 3-12.
32. C. Rinner and **M. Raubal** (2004) Personalized Multi-Criteria Decision Strategies in Location-Based Decision Support. *Journal of Geographic Information Sciences* 10(2): 149-156.
33. **M. Raubal**, H. Miller, and S. Bridwell (2004) User-Centred Time Geography For Location-Based Services. *Geografiska Annaler B* 86(4): 245-265.
34. C. Nothegger, S. Winter, and **M. Raubal** (2004) Selection of Salient Features for Route Directions. *Spatial Cognition and Computation* 4(2): 113-136.
35. **M. Raubal** and W. Kuhn (2004) Ontology-Based Task Simulation. *Spatial Cognition and Computation* 4(1): 15-37.
36. **M. Raubal** (2001) Human wayfinding in unfamiliar buildings: a simulation with a cognizing agent. *Cognitive Processing* (2-3): 363-388.
37. A. Frank and **M. Raubal** (2001) GIS Education Today: From GI Science to GI Engineering. *Journal of the Urban and Regional Information Systems Association (URISA)* 13(2): 5-10.
38. **M. Raubal** (2001) Ontology and epistemology for agent-based wayfinding simulation. *International Journal of Geographical Information Science* 15(7): 653-665.
39. A. Frank and **M. Raubal** (1999) Formal Specifications of Image Schemata - A Step to Interoperability in Geographic Information Systems. *Spatial Cognition and Computation* 1(1): 67-101.
40. **M. Raubal** and M. Egenhofer (1998) Comparing the complexity of wayfinding tasks in built environments. *Environment & Planning B* 25(6): 895-913.
41. **M. Raubal**, B. Gaupmann, and W. Kuhn (1997) Teaching Raster GIS Operations with Spreadsheets. *Journal of Geography* 96(5): 258-263.

Refereed Full Papers in Conference Proceedings

1. A. Duchowski, K. Krejtz, I. Krejtz, C. Biele, A. Niedzielska, P. Kiefer, I. Giannopoulos, and **M. Raubal** (2018) The index of pupillary activity: Measuring cognitive load vis-à-vis task difficulty with pupil oscillation. *CHI Conference on Human Factors in Computing Systems (CHI 2018)*. Montreal, Canada, ACM.
2. I. Giannopoulos, D. Jonietz, **M. Raubal**, G. Sarlas, and L. Stähli (2017) Timing of Pedestrian Navigation Instructions. in: E. Clementini, M. Donnelly, M. Yuan, C. Kray, P. Fogliaroni, and A. Ballatore (Eds.), *13th International Conference on Spatial Information Theory (COSIT 2017)*, L'Aquila, Italy, pp. 16:1-16:13, LIPICS - Leibniz-Zentrum für Informatik, Dagstuhl Publishing, Germany.

3. D. Bucher, D. Jonietz, and **M. Raubal** (2016) A Heuristic for Multi-modal Route Planning. in: G. Gartner and H. Huang (Eds.), *Progress in Location-Based Services 2016*. pp. 211-229, Springer.
4. D. Rudi, I. Giannopoulos, P. Kiefer, C. Peier, and **M. Raubal** (2016) Interacting with Maps on Optical Head-Mounted Displays. *Spatial User Interaction (SUI) 2016*, Oct 15-16. Tokyo, Japan, ACM Press.
5. P. Kiefer, I. Giannopoulos, A. Duchowski, and **M. Raubal** (2016) Measuring Cognitive Load for Map Tasks Through Pupil Diameter. in: J. Miller, D. O'Sullivan, and N. Wiegand (Eds.), *Geographic Information Science - 9th International Conference, GIScience 2016, Montreal, QC, Canada, September 27-30, 2016. Proceedings. Lecture Notes in Computer Science 9927*, pp. 323-337, Springer, Switzerland.
6. D. Bucher, F. Cellina, F. Mangili, **M. Raubal**, R. Rudel, A. Rizzoli, and O. Elabed (2016) Exploiting Fitness Apps for Sustainable Mobility - Challenges Deploying the GoEco! App. 4th International Conference on ICT for Sustainability (ICT4S 2016). Amsterdam, Atlantis Press. 89-98.
7. H. Miller, **M. Raubal**, and Y. Jaegal (2016) Measuring space-time prism similarity via temporal profile curves. in: T. Sarjakoski, M. Santos, and T. Sarjakoski (Eds.), *AGILE 2016 - Geospatial Data in a Changing World. Lecture Notes in Geoinformation and Cartography* pp. 51-66, Springer.
8. C. Sailer, J. Schito, P. Kiefer, and **M. Raubal** (2015) Teachers Matter: Challenges of Using a Location-Based Mobile Learning Platform. in: T. H. Brown and H. J. van der Merwe (Eds.), *The Mobile Learning Voyage - From Small Ripples to Massive Open Waters - 14th World Conference on Mobile and Contextual Learning, mLearn 2015 Venice, Italy, October 17-24, 2015, Proceedings. Communications in Computer and Information Science 560*, pp. 239-255, Springer, Heidelberg, New York.
9. I. Giannopoulos, P. Kiefer, and **M. Raubal** (2015) GazeNav: Gaze Based Pedestrian Navigation. in: *MobileHCI, 17th International Conference on Human-Computer Interaction with Mobile Devices and Services*. Copenhagen, Denmark, ACM.
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3. **M. Raubal** (2018) Mobile technologies for personalized and sustainable mobility. Erskine Fellow Presentation, University of Canterbury. Christchurch, New Zealand.
4. **M. Raubal** (2017) GI macht mobil! Was macht die Forschung? TechDay, Esri Schweiz. Gurten, Switzerland.
5. **M. Raubal** (2017) Systems for sustainable mobility. 4th Annual Conference SCCER Mobility. ETH Zurich, Switzerland.
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